

AMERICAN BEE JOURNAL

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. X.

CHICAGO, JULY, 1874.

No. 7.

Correspondence.

Correspondents should write only on one side of the sheet. Their best thoughts and practical ideas are always welcome; no matter how rough, we will cheerfully "fix them up."

For the American Bee Journal.

Wintering, etc.

I felt very much encouraged as the winter months passed away, to find all my bees alive, as well those left in my charge for the winter by the firm of Nunn Bros., of Oberlin, amounting in all to 133 stocks—30 of my own and 103 being one of Nunn Bros.' apiaries. But the spring months brought very different results. On Feb. 5th all were alive, and apparently in good condition. A few lacked stores, and had to be fed accordingly. On the 7th of Feb. I found 8 of my own dead, and 4 or 5 of Nunn Bros.' and every warm day in which the bees could fly showed that another one or more had run its allotted time—but the worst had not yet come. It was certainly hard to see 50 or 60 stocks die, and *apparently* no cause, but to see the remaining ones dwindle down to small, weak stocks and have to unite them and notice them in a few days still diminishing, and that in April, and uniting as many as 3 or 4 together, and in May still be weak I felt *blue* as I had never before. I united and united, until I reduced my own to 3 stocks and Nunn Bros.' to 26, leading them with the choicest queens. Then some of them seemed very undecided whether life was worth the living or not, but others prospered remarkably well.

Before I ask the cause of such mortality, I must give the circumstances somewhat in detail. Hives, Standard Langstroth; some well packed with straw; nearly all had blankets; about 20 with honey-boards, all of which died; straw packed in upper stories. Last time of extracting, in September. The week following each hive had an average of 35lbs. of honey, and 8 or 10 frames of brood, (some even 16) and many of them young queens. There were very

few older than 2 years—that is queens of the fall of 1871, mostly the production of 1872.

The strangest part is the manner in which the bees acted. In the month of May I opened a weak stock and discovered that the bees were not clustered, but spread all over the hive; brood scattered around in all stages; bees paying little attention to it, and the queen trying to be where most of the bees were. On opening one hive, the queen appeared to be disgusted with the ungallantry of her attendants, and flew out without a follower. They all left honey in abundance with the exception of about 6, which left little or none.

If Adair's theory is correct, that a queen can lay all her eggs in a season, then it is possible that the queens being unable to keep up the colony, was the cause, as some of them had kept from 15 to 20 frames full of brood all the summer. But on the other hand there has been a number of stocks die around here, or rather in a certain direction, and I am inclined to think that Prof. J. P. Kirtland is correct in attributing it to an epidemic; for when travelling 18 or 20 miles from here, I found a section of country where all the bees had died, whether in movable frame or box hives. On either side of it, very rarely one had died.

Perhaps some one will account for it a little more satisfactorily than I can. I would like to know the opinion of others about it.

I spoke of Nunn Bros. leaving their bees in my charge for the winter. Their object was to take a trip to Europe; and while in Italy they purchased 30 queens, and arrived at their destination (Oberlin, O.) with 27 living, which I think is rather remarkable.

I see an Advertisement in every Journal of "Winder's New Extractor," working from the bottom, PATENTED. If your readers will refer to the April or May No. of the AMERICAN BEE JOURNAL for 1873, they will find an article headed "A new contributor." They will see that I used one then, (before Mr. Winder's was patented) and I have had it for 3 years. I do not claim to be the inventor. It was suggested to me by Nunn Bros., and I carried out their principle, and as they did not wish to

patent it, I spoke of it in the JOURNAL thinking others might value it as well as myself.

I would like to know wherein Mr. Wind-
er claims his patent. AVIS.

For the American Bee Journal.

Artificial Swarming.

I take from my prosperous colonies, two frames of brood with adhering bees, until I have enough to fill a hive. Watch carefully, about the time the first queen hatches, and cage her, before she destroys the other queens. This week, I caught the first queen that hatched, in one of my new colonies, put her in a cage, leaving her until the next day in the hive where she hatched. I then made a new colony, and placed a frame of brood and adhering bees, with a queen ready to hatch from this hive; I then released my queen in the hive where she hatched.

In a few hours queen No. 2. was out and was well received. I intended to catch her before she destroyed her rivals, but was too late. I obtained four queens in this way, from one new colony. I have never succeeded in cutting out a queen cell and giving it to a queenless one.

I wish the fathers in apiculture would stop grinding their axes for a little while and give us their *modus operandi*.

Peoria, Ill.

MRS. L. HARRISON.

For the American Bee Journal.

How to make Artificial Swarms.

Those who have movable comb frame hives will find it to their interest to artificially swarm their bees. There are many ways by which this can be done, and of all the different modes, I have found the following to be the most satisfactory in my experience:

I will first go to stock No. 1 and take away one-half of the combs, taking about one-half of the brood and one-half of the honey, putting in their place empty frames. Do not put two empty frames together, but between frames of comb, so that the bees will build the new comb straight. I brush the bees all off of those frames of comb etc., and take a new hive and place them in it, with alternate empty frames as above stated, for same reason. Now I go to stock No. 2, between eleven and twelve o'clock, and remove to another part of the apiary, always selecting a strong stock, and put the new-made hive in its place, and you will be surprised at the number of work bees that will go in and take possession of this new hive; and finding they have no queen, will soon commence making queen cells. But I generally, nine or ten months prior to this time, have set my best and choicest colony

to raising queen cells; so that I now save ten days by going to that colony and cutting out a queen cell and inserting it in this new made stock, which I do from four to six hours after I let the workers in as above stated. In this way the apiarian can keep his stocks strong all the time and increase them remarkably fast; and should any stock from any cause become weak or need strengthening, you can give it a comb of brood and all the bees that cling to the comb, from a strong colony; but you must be careful not to take the queen with them; better shake the bees from the comb unless you know that the queen is not on it.

J. M. DORR.

For the American Bee Journal.

The Bees and Grapes.

One word about bees eating grapes. The past three Falls have been dry with us. I have two fine vines on the south side of my house within 20 feet of my bees. Not a grape did they touch. In my garden not 40 feet my bees, I have several vines. Two years ago I caught the yellow birds eating the grapes. They would alight on a stem and pick a hole in every grape; then the bees took the balance. I put up some rags and scared the birds away. I had no more trouble with the bees. Those on my house they did not touch: I had 171 stands of bees. I have watched them closely, and I don't believe a bee ever molested a grape until they had been opened by birds or something else. A man is to be pitied that would recommend poison for bees, or would kill the little songsters for a few grapes that they kept the worms from them all summer. I never write for publications as it would tax the editor too much to put it in shape.

F. SEARLES.

Hadley, Ill.

Not a bit of it. Give us your best thoughts and we will always be glad to put them in shape. Every practical bee-keeper is invited to write. We want *variety*, and our bee-men are invited to send us everything of interest.—EDITOR.

For the American Bee Journal.

Sundry Notes.

Spring has been so lagging that our pets have not done as well, up to this time, as is usual; and what was quite remarkable the cherry, apple, pear, horse-chestnut, sugar maple, lilac, and currant were in bloom at the same time, and of course stimulated breeding greatly, although a fortnight later than last year.

I attempted to raise a few queens as early as the first week of May, but the bees would not respond.

There is no pleasure in the apiary, next to a healthy condition, equal to that of queen raising; and no disappointment greater than when you have put your trust in man, and have sent for tested queens at a price and find them wanting.

I passed a good part of last summer in such disappointments, and as it is three weeks at least before one can detect the imperfections, it is a great loss of time in any apiary; and it might be a serious loss to one who depended upon queen raising as a source of income. Late in the season I sent for a low-priced queen, and by return of mail received a beauty, which proved to be pure and prolific, and from her I have raised my early queens. Such has been my experience with high and low-priced queens.

For my part I do care whether the color of the queens, young or old, are of the rich chestnut, or the lighter and as some think more beautiful golden, but I do not want too much of the "horrid black," as this makes me distrust the purity of the ancestry.

If the queen cell is started from the egg, or from the worm only a day old, and is attended by enough bees to keep it liberally supplied with food and sufficiently warm, I have found no difference between such a raised queen and one from a crowded colony at swarming time.

Have you ever known queenless bees to take an egg from a laying queen that was caged and put over the frames? I suspected it, this spring, from the fact that the first two or three queens that hatched from a breeding hive, in which I had placed a caged hybrid queen for safe keeping, were of a beautiful golden color, while the rest were nearly as black as common bees. To test this I twice made a colony of bees in empty combs, or combs to which no queen had had access, for at least a fortnight; and in both instances queen cells were formed near the top of the combs, and eggs deposited in them. In one of them I let the bees raise a queen which proved to be a hybrid. May not this be a source of error, and a really good queen condemned?

In two instances last summer, I found two laying queens at the same time in the same hive. One of these old queens rather liked the colleague idea for I put her into another colony and after filling the hive with brood, repeated this partnership operation. In trying this again I lost her, by introducing. E. P. ABBE.

New Bedford, Mass.

The odor exhaled from the hives, and the size of the bees on their return from foraging excursions, are always sure indications whether the flowers contain honey.

For the American Bee Journal. The Bee Malady.

The all-absorbing topic of the unusual mortality among bees during the past few years, seems to be neither exhausted nor satisfactorily explained. My experience in handling bees commenced more than 40 years ago, and I have been an interested bee-keeper the greater part of my life. I have wintered them and closely observed their habits and conditions in the States of New York, Pennsylvania, Indiana, and Northern Minnesota, where we had four months of steady cold, every winter, and for the last four years in this place, near Cincinnati, O.

I have read all of interest or importance that has been published on the subject in this country; besides considerable from Germany. I have, during the last five years, visited many apiaries to try to ascertain the cause of loss or failure, where there had been such. The result of all this research has been to convince me most fully and firmly that I have obtained enough of the experience of others, combined with my own, to enable me to winter bees in any climate between the southern line of Ohio and Lake Superior region with as little loss as horses, cattle, mules, poultry, or any other farm stock. I am prepared to give facts and figures which will demonstrate the correctness of my views and render them acceptable. While nearly all the prominent bee-keepers of the country have given their views upon the subject of the recent great mortality of bees, no one has, seemingly, solved the problem, even to his own satisfaction; but nearly all have made some point or points in the right direction.

Mr. James Bolin of West Lodi, O., says, in the April No. of the AMERICAN BEE JOURNAL, p. 75: "I believe it was caused mainly by cold and disease engendered by the same. That there was dysentery, I freely admit, for I saw the most convincing proofs of that among some of my neighbor's bee that died; but in every case, it was where the bees were wintered on their summer stand or, placed in cold depositories—no better, if as good as the summer stand."

Then he goes on to state a number of interesting cases which would strongly indicate the correctness of his conclusion, and the same has been so often expressed by Quinby, and many others, and demonstrated by stated facts which cannot reasonably be doubted, we may as well mark down right here one point gained.

Now we will try to demonstrate as clearly that no degree, or continuation of cold experienced in any portion of the United States is sufficient to cause this mortality

among the bees when all other conditions are right.

In the winter of '66 and '67, the first winter that the disease appeared in epidemic form, I was living 200 miles north of Hosmers' place in Minnesota, where the bees are usually confined to the hive for months at a time by the cold, and during some portion of this time the mercury was frozen at 42 below zero, and, as Major Jack Downing said, "it would have been a good deal colder if the thermomikin had been long enough." Here it was common for the bees to remain on their summer stands 2 or 3 feet above the ground, in the open air, with no protection whatever except what a single inch board afforded. The hives were mostly the box, of the tall persuasion. Some of them were made with a chamber above for surplus. These had a cloth laid over the holes above and filled in with fine hay. Others were made with a partition through the centre and one apartment used for surplus. This apartment was left empty and the passage holes open at the top, middle, and bottom. All had fly-holes open half way from top to bottom. It was a very rare thing to hear of any loss among bees there. An old bee-keeper who had been there much longer than I had, said to me "our bees are never injured by the cold if they are properly ventilated." But, said he, "you must never depend upon lower ventilation for the moisture will condense and run down, freeze and stop it up, and then the bees are gone."

We never fed anything but honey up there. I heard of no extensive loss there, except in one instance. One man wintered 60 swarms in a depository made for the purpose, and lost 40, mostly after setting them out in April.

Is it natural stores that causes disease among the bees? Friend Hill, who took the premium for the best conducted apiary at the last Cincinnati Exposition, keeps from 80 to 100 swarms which he winters on their own stores, and has had no sign of disease among them during the last four years. His bees winter on their summer stands, and he uses a blanket and dry leaves over them in the cap. Hives shallow, Langstroth.

Friend Muth winters on top of his store in a bleak situation, same hive, blanket and straw mat laid over the frames, a strip of board an inch thick laid across each end of the mat leaving an inch space between the mat and the cover, for the circulation of air, to keep things dry. The situation is in the business portion of the city. He has near 40 swarms I believe. All wintered on their own stores, also without trace of disease for four years past. He wintered a swarm two years ago that

contained less than a pint of bees, outside, in a full-sized Langstroth hive, without division board—also natural stores.

Friend Gano,—a wholesale hardware merchant in the city, keeps about twenty swarms for pleasure. Has had them for many years, is very observing and well-posted in their habits and needs. He is situated in the suburbs, $2\frac{1}{2}$ miles from me; winters out, on natural stores, and no protection except abundant ventilation, in this wise: fly-holes open below, surplus boxes removed, leaving the passage ways all open through the honey board into the surplus chamber, and the caps so open as to give the occupants below abundant opportunity to see the stars. He has had no disease among his bees. A portion of his hives are tall and a portion, the shallow Langstroth. In cold winters he has had quite a number of swarms starve to death in the shallow form of hive, with ample supplies all round them, but none above the cluster. During the long cold spell a year ago last winter, he removed the honey board from one of these shallow hives and laid several pieces of honey in the comb on the frames and set up a couple of thin boards to partially cover them inside of the cap; and they came through the winter in that condition and made one of the most prosperous stocks he had that season.

Last season I kept the combs in the brood-nest of all my hives clear of honey with the extractor, until the last week in June, and the consequence was, the hives were crowded with bees and the combs full of brood. On the 1st of July honey gathering ceased almost entirely. After this no brood was reared of any amount except what the combs contained at the time, and when winter set in they were more reduced in numbers than I ever had them before in the fall, and were all old bees. In October they got a little honey from the aster. In November I gave them a thorough examination, and estimated the amount of supplies by taking out and weighing a part of the combs and estimating the others. The heaviest stock was 10 lbs. Hives were numbered and the amount in each noted. I then fed them syrup.

April 10th the 34 stocks were in fine condition. Two lost their queens, one queen was a drone layer, not pure, and I killed her. And a few days since I found a queen in a knot of bees, and made a mistake and gave her to a wrong stock and the queenless stock was robbed during my absence. My bees were all in the Langstroth hive, on summer stands with straw mat and quilt or blanket over the frames; the cap on, with the cover raised $\frac{1}{4}$ inch all round by tacking on bits of thick leather for the cover to rest on. M. NEVINS.

Ohio.

Michigan Bee-Keepers' Association.

SPRING SESSION.

KALAMAZOO, Mich., May 6, 1874.

Pursuant to a call for special session of this association, a goodly number of bee-keepers assembled at the Corporation Hall, in this city, to-day. Convention called to order at two o'clock P. M. In the absence of the secretary—Frank Benton—H. A. Burch was elected secretary *pro tem*. After the usual reading of minutes of previous meeting and the transaction of business relative to the financial affairs of the Association, the programme for the meeting was taken up. Papers were presented and read as follows:

Standards of Excellence in Bee-Culture, by Herbert A. Burch; in which the writer took occasion to demonstrate the necessity, and urge the adoption of "standards of excellence" by which very efficient aid might be rendered the apicultural fraternity.

Transferring, and Surplus Honey, by C. I. Balch; delineating a simple and safe plan for beginners in apiculture.

Artificial Swarming, by T. F. Bingham; a novel method, having much to recommend it.

Low Hives, by Julius Tomlinson; in which the writer portrayed the advantages of shallow frames.

Wintering, by Prof. A. J. Cook; setting forth in brief and concise form, the essentials of success in wintering bees.

The discussion of the topics embraced in the foregoing essays, though somewhat desultory, possessed much interest, being instructive withal; a brief epitome of which, we give as follows.

T. F. Bingham.—Can we rely upon obtaining drones from young queens?

C. I. Balch.—Yes, in abundance.

A. C. Balch.—I have no difficulty in inducing young queens to fill all the drone comb I give them. Am troubled with superabundance, rather than paucity of numbers.

Henry King.—Is it safe to open hives in cold weather?

T. F. Bingham.—Yes at any time when the bees will not freeze. Though the books caution against chilling brood, actual experience has demonstrated that this danger is wholly imaginary. The more hives are opened, the better for the bees.

H. King.—Can we not ascertain the presence or absence of the queens, without the trouble of closely examining each hive, separately?

T. F. Bingham.—There is no more necessity of opening hives to ascertain queenlessness, than there is of employing a microscope for that purpose. Place your ear

close to the hive and tap it sufficiently hard to wake the bees; if the response is energetic and ceases almost instantaneously, they have a queen; but if the response is languid and dies out slowly, they are queenless. I have found this rule so invariably correct, that I never open hives to ascertain queenlessness, even if examining hundreds, and never make mistakes.

Julius Tomlinson.—I have fully tested Mr. Bingham's plan, and have found it simple and perfectly reliable.

Mr. Evarts.—Are there outside indications of a queen's presence in the hive?

T. F. Bingham.—If immature young bees are seen in front of a hive, it is satisfactory evidence of the presence of a queen. Queens, like some persons, are erratic in their movements, eluding the most careful search; and to ascertain to a certainty the presence of "her majesty" without examining the combs, is a great saving of time in managing a large apiary.

Mr. Evarts.—Will queenless stocks gather pollen?

Pres. A. C. Balch.—Not to any extent.

T. F. Bingham.—They will in the fall.

C. I. Balch.—Yes, if they have drone layers.

James Heddon.—Queenless colonies are easily distinguished by the diminutive pellets of pollen that the bees gather in spring.

Dr. Southard.—Has any one experienced difficulty in regard to queens dying the present spring?

T. F. Bingham.—I have lost a great many, and had it not been for reserve queens which I wintered, should not have had a swarm left to-day. Have lost 160 stocks as it is. Two years ago, when I lost heavily, the queens died from overwork; but the present spring, there has been but very little brood to be found even in the strongest colonies.

Pres. Balch.—Will Mr. Bingham tell us the cause of his loss in wintering?

T. F. Bingham.—Special interposition of Divine Providence through the hand of man.

C. I. Balch related instances of queens deserting their hives. One queen that persistently refused to stay at home, deported herself as "becometh" a queen, when given to a queenless colony.

Albert Caniff.—Why this loss of queens? My own theory is that the old bees die and the hive becomes depopulated; they swarm out.

T. F. Bingham.—My queens died in their hives. I experience little or no difficulty in wintering bees; but how to "spring" them; that's the question.

Pres. Balch.—My bees have become very much reduced in numbers, by the bees getting lost while "out a foraging," on chilly spring days.

James Heddon.—I can only account for the loss of bees by desertion, on the ground that they become dissatisfied and seek to better their fortunes, the same as people do by "going West."

J. P. Everard agreed with Pres. Balch relative to the cause of the weak condition of bees the present spring.

A. Caniff.—Why will one swarm with only a pint of bees stick to their home, and prosper, while another with two quarts swarm out and die?

James Heddon.—Some bees, like human beings, can stand more grief than others.

C. I. Balch.—When my bees were first placed on their summer stands they were in good condition, though having but little brood. A cold, stormy spell of weather soon followed, which materially injured them. Returned them to the cellar soon after, and had they been left out two weeks longer all would have been ruined. When replaced on summer stands in April, a dozen stocks did not have as much brood as one should have had, when first taken out in the previous February.

After some further discussion of the why's and wherefore's of losses sustained in wintering, the subject of hives was taken up and discussed at considerable length. From the brief synopsis given below, it will be seen that a wide diversity of views were held and expressed on this "knotty question" of what is *best* in a bee-hive.

J. R. Everard favored the size and shape of the "New Idea" frame. The advantages which will accrue from this style, will, in my opinion, render it the coming frame of the future.

James Heddon.—I cannot agree with the ideas advanced by Prof. Cook, relative to the square frame. The long frame recommended some years ago by Quinby is preferable, especially for wintering.

C. I. Balch.—If we expect to succeed in making apicultural pursuits a success, we must use a frame that will give us a compact brood nest. This will greatly augment our success in wintering. Several years ago I constructed several hives holding ten frames in the usual manner, with a stationary division board in the rear.—Back of this was a space for holding two combs, a one-inch hole giving bees access to them from main apartment. In winter, left it open and have never lost a swarm in them.

James Heddon.—In my county, there is but one hive that has been continuously occupied by bees during the past seven years. This was an old box hive, that had remained on summer stand every winter, having abundance of ventilation. In transferring it in April, obtained 250 pounds of honey, and bees enough for two good swarms. I found drones in abundance.

Though this additional evidence in favor of large combs.

Sec. Burch.—What were the dimensions of the hive?

James Heddon.—Three feet square, and thirty inches deep.

Mr. Evarts.—I have experienced difficulty in obtaining box honey on large hives. What is the remedy?

James Heddon.—To get the most honey you must have it stored in close proximity to the brood.

C. I. Balch.—I have had 216 pounds of honey stored by a swarm in a large hive. It was comb honey obtained in small frames. I get more than twice the amount of surplus honey in large hives than I do in small ones, while the bees in the latter are very apt to come up missing in the winter.

J. P. Everard.—Difference of locality influences the result. We should not lose sight of this.

James Heddon.—Cause and effect follow each other. Can we not ascertain the cause?

Pres. Balch.—When bees are wintered on summer stands, I find old box hives, full of cross sticks, do the best. Ease of access to all parts of the hive, and little ventilation are thus secured. The space around movable-frames is a great detriment in winter and early spring. If we could dispense with it entirely, so much the better.

A. S. Haskins.—Which is the best location for surplus honey, heavy timbered land or "openings?"

H. A. Knapp.—I prefer a location which was originally an unbroken forest.

C. I. Balch.—Much depends on the season. One season timbered land may be the best, and the next *vice versa*. White clover is very uncertain in its yield of nectar.

Adjourned till eight o'clock p. m.

EVENING SESSION.

The convention was called to order promptly at eight o'clock. President Balch in the chair. The subject of discussion for the evening was announced by the chair to be "*Wintering Bees*," in its broadest sense. Pres. Balch read an able paper on "Ventilation" and the relation it sustains to the loss in wintering bees.

The discussion was opened by

James Heddon.—Ventilation is an important feature of successful wintering. Wintering 36 stocks in a special repository that would hold 150. Gave ample upward ventilation. When the temperature was 10 degrees below zero outside, it was 34 degrees in the repository. Bees are more quiet with a higher temperature. In order to attain the best results, keep the temperature at 45 degrees or above.

H. A. Knapp wintered in a cellar several years without ventilation, and lost heavily. The past two winters had taken off honey boards, filled the caps with straw, and had good success.

Pres. Balch.—Did you winter in a house cellar?

H. A. Knapp.—I did.

Pres. Balch.—That accounts for the loss.

H. A. Knapp.—I think not. The two past winters I had the bees directly under a living room—never had better success. My cellar is very dry.

James Heddon.—It seems from reports that bees have wintered well with and without ventilation, and *vice versa*. One thing is certain: long continued confinement and severe cold weather produce disastrous results.

H. A. Knapp.—Ventilation should be given so as to avoid direct currents of air through the brood nest.

T. F. Bingham.—Notwithstanding this learned discussion on ventilation, success depends altogether (!) on luck.

The secretary read a paper entitled a "New Method of Wintering" by H. E. Bidwell, detailing the success attending experiments made with a view of attaining complete and uniform success in wintering bees. This method gives promise of being a simple and efficient safeguard against loss in "Winter Bee-Keeping."

T. F. Bingham.—Mr. Bidwell's plan is certainly unique; and if it shall prove what is now hoped for it, will be one of the greatest achievements of modern apiculture. I am convinced that one-day's fly with the mercury at 45 degrees is only an aggravation. Not until the bees had flown three or four days in succession with the temperature at 60 degrees, was dysentery checked in my own apiary. It is a disease, just as much as typhoid fever. Cold may aggravate the disease, but does not cause it. An affected swarm will communicate the disease to those around it, either by contagion or the uneasiness caused by excitement. Gave lower ventilation—none above. Think the last immaterial. Bees must fly at least once a month, commencing in December.

James Heddon.—I tried Mr. Bidwell's plan; success limited.

C. I. Balch.—When I learned of the "Bidwell method" I decided to test it at once. Did so and failed. I then visited Mr. Bidwell and found it a complete success with him. My own failure was owing to non-compliance with the requisite conditions.

T. F. Bingham.—Much has been said in reference to dysentery being caused by honey. Close observation convinces me that, while honey *may* aggravate the disease, it is never the prime cause. "Novice"

has lauded sugar syrup to the skies, asserting that it will winter bees without loss. Had he not better demonstrate that *he* can do this, before making such sweeping assertions.

Jas. Heddon.—I wintered in a special repository. Sugared one half; all wintered equally well. Those left out-of-doors in 1872 all died before those inside had any disease.

Dr. Southard.—Have tried many plans, and lost in nearly all. Wintered in cellar the past winter. Bees went into winter-quarters very strong. Combs moulded badly, but lost only one swarm when set out; lost very many since. Honey was of a better quality than the year before, but lost more bees.

C. I. Balch.—Have had more candied honey the present spring than ever before, and have lost more bees also.

T. F. Bingham.—I used artificial heat in my building the past winter, and think it indispensable. Had no dampness—no cold—and not a mouldy comb. Every comb is bright and clean—the bees leaving the hives to die. Think 35 degrees the right temperature. High temperature and breeding go together. Science may aid us, but after all we must trust to luck (?) and Providence for results. What are moth-proof store-combs worth, provided they can be made?

James Heddon.—Double value; that is, if natural combs are worth \$6 per hive of ten combs, artificial ones would be worth \$12. I would willingly make that difference.

T. F. Bingham.—If we can procure drone comb for wintering, we can avoid all disease. Bees gormandize pollen and rear brood, which is *the cause* of dysentery.

James Heddon.—In feeding sugar syrup last fall found little or no brood—abundance of pollen. Deprived a portion of natural stores and pollen, substituting the sugar. All wintered equally well, and all breed alike this spring. Had all young, vigorous, Italian queens.

T. F. Bingham.—We continually hear of the wonderful workings of the bee: its skill in science, and proficiency in architecture; the hexagonal cell, etc. The truth is, bees build the hexagonal cell because they could not do otherwise; were compelled to this in order to perpetuate their own species.

Pres. Balch.—So far as my own experience goes, all insects work by instinct, not science. In wintering, I experience more difficulty in spring, the warm days enticing them away from home in search of food—than in cold weather of winter.

After further discussion, the subject of time and place for the next annual meeting was taken up. Many were opposed to

having it in connection with the State Fair—too much outside attraction to make the meetings a success. Later in the season, when the bee-keepers could command more leisure, was deemed preferable. The convention finally adjourned to meet in Kalamazoo, on the third Wednesday of December next.

H. A. BURCH, *Sec. pro. tem.*

We give below statistics, as far as ascertained, of what our bee-keepers did last season. We think the showing not altogether unfavorable, even when compared with that of the National Society. It will doubtless be observed that the "bee-disease" has not subsided altogether "out West."

NAMES OF MEMBERS.	No. of stocks May 1st, 1873.		No. of stocks Oct. 1st, 1873.		Kind of honey obtained.	How Wint'ed	No. of stocks May 1st, 1874.	
	May 1st, 1873.	Oct. 1st, 1873.	May 1st, 1873.	Oct. 1st, 1873.			May 1st, 1874.	Oct. 1st, 1874.
A. C. Balch.....	14	31	300	Box..	Cellar ..	25		
T. F. Bingham....	84	180	6000	"	House ..	22		
H. A. Burch.....	30	45	2100	"	Cellar ..	34		
C. I. Balch.....	11	22	"	"	" ..	15		
E. Bennett.....	29	70	1000	Ext.	Out door	60		
James Heddon....	16	37	4200	"	House ..	36		
Mr. Ward.....	2	6	175	"	Cellar ..	6		
A. J. Daniels.....	2	6	"	"	" ..	6		
C. J. Daniels.....	8	15	300	Box..	" ..	1		
A. S. Haskins....	10	300	"	"	Out door	10		
W. B. Kromer....	5	7	50	"	" ..	7		
F. E. Fowler.....	1	1	"	"	Cellar ..	0		
Mr. Everts.....	2	2	75	Box..	Out door	2		
Mr. Dicer.....	2	2	600	"	" ..	4		
Mr. Wilcox.....	14	15	675	"	" ..	14		
Mr. Lominson....	12	12	60	"	" ..	11		
H. A. Knapp.....	12	14	200	Ext.	Cellar ..	14		
A. Caniff.....	14	14	287	Box..	Out door	14		
Dr. Southard....	22	41	800	Box & Ext.	Cellar ..	29		
H. King.....	11	28	300	Box..	Cellar & out-door	29		
Mr. Hudson.....	16	37	400	"	Cellar ..	34		
J. P. Everard....	14	36	500	Ext.	" ..	24		
J. Tomlinson....	5	20	460	"	Out door	5		
H. E. Bidwell....	100	160	7000	Box..	Cellar ..	154		

For the American Bee Journal. Novice.

DEAR BEE JOURNAL: Were we to set about picking all the flaws in friend Adair's writings and works that we could, as though we had a case to work up, and bound to show all his weak points, etc., we presume we might keep up an animated controversy all summer. Some would applaud and say, "now you've got him, Novice, he can't get around that," and perhaps an equal number would say, "Adair is too much for him, he had better twist out of it as he has a way of doing, etc., etc.;" and perhaps a few might profess a particular sympathy with each one's side when writing them, and this latter class are productive of the most mischief perhaps of all. One class would become more and more settled

in their convictions that Novice was the aggressor, and the other *vice versa*; and no real good would come of it all, any more than will perhaps from further arguments at present in regard to "Queen's wings."

Perhaps Mr. Adair is right, and that we have not done him justice. If so, we beg his pardon and will endeavor to submit with better grace when we see reason to conclude he is right all through Progressive Bee Culture. In place of arguing as to what is on the inside page of the cover, we would ask those who have the curiosity, to read it and form their own opinion. If we misrepresented, we beg pardon, for we did not intend to, and cannot see now that we did, in substance.

Although Mr. A. has taken extracts here and there from our writings, and held them up in a way that makes one look ridiculous, and in a few places does us gross injustice, we cannot really think it best to censure him so much, for this is a common method of attack in controversies. Again, several things appear badly against us because all the facts are not known; one of them is in regard to the Peabody Extractor.

Were we to tell just how we came to recommend it publicly we should drag another person forward into a controversy perhaps, so we prefer to let the blame rest on us. With the rapid strides bee-culture has made, it has many times been hard to decide what is best, and we really must confess on looking back that Mr. Adair has some reasons for his charge respecting what we have advised.

Will he and some others remember that our opinion was continually asked and is yet, on many difficult points, and we could do no better than to answer them to the best of our honest convictions. If he ever had any such foolish belief that we are "capable of the job of regulating the whole bee world," we certainly are cured of it now. Reports of losses of whole apiaries come to us from all quarters, and under seemingly almost all circumstances, and we honestly haven't a word of advice to offer. If friends Adair and Gallup, would tell us how many colonies they had in the fall, and how many they have now,—May 29th,—we might form an opinion as to how much aid we might hope to expect from adopting their long hives and mammoth colonies. So far as we can learn, stocks made purposely of double strength in the fall, have fared but little better. Although as we have said, failures are reported when everything seemed most favorable. On the other hand, Apiaries located but a short distance away, have wintered as usual under even unfavorable conditions. Dysentery seems to have had little or nothing to do with it this spring, but the trouble seems to have been simply a dwindling

away of the bees, until none are left to care for the brood. We have never yet found a case that reported unfavorably in regard to sugar for wintering when the full facts were brought out, unless it be the one on pages 132 and 133, and we would be much obliged to the writer of that article for his full address.

It is well known, we believe, that our reverses have been given just as faithfully to the public, (perhaps more,) as our successes and we can hardly consider it fair to make an enumeration of the former only, as Mr. Adair has done, sending eggs by mail, for instance;—this we were induced to do by accepting the statements of some whom we considered trustworthy, before we had had an opportunity of verifying the matter ourselves. However we offered to refund all money sent us for eggs, as soon as we discovered it to be a failure. And by the way here comes something queer. Mr. Adair, among the rest, wrote us for eggs, saying his stock of Italians had got reduced or failed, or something of the sort, and at the convention he states that a number of queen cells were started on the inserted comb and *all of them produced queens.*"

This was the *only instance* we know of when a single queen was reared when the eggs went out of our immediate neighborhood, or so far that they could not be inserted in a hive the same day. Why should Mr. Adair class it as "vagaries," if he succeeded so well, in fact far beyond everyone else? Since we have got your ear friend A. please tell us where the "Annals" is that your advertisement keeps saying was out in Dec. 1873.

We are not yet convinced that queens on an average can use more than 20 combs, when we are, we will make hives longer. You wouldn't have a body believe a thing before they thought it was so, would you? We don't wish to appear to doubt what you and Mr. Gallup say about the capability of your queens, but those we are acquainted with frequently fail to occupy ten Langstroth frames. Shall we accept it as a fact that the very idea, of occupying a "New Idea" hive fills their little selves with the boundless ambition of being able to fill every cell with eggs in 24 or more frames?

In soberness, the bees we have known, and the ones we get letters about, do not deport themselves near up to accounts we get from Quinby, Hazen, Gallup nor Adair—begging their pardon if they object to being thus put into a "four horse team,"—and we have seen them tried in 18 or 20 frames spread out horizontally for several years past too. But we do get by far too many accounts of "blasted hopes," to decide that bee-keeping at the present time could even be considered a safe business

for anyone to embark in largely.

Our offer to make the Quinby hive 25 *per cent* less, ready to nail, should read 25 *cents* less, ready to nail.

We beg pardon, Mr. Editor, if we are writing rather dolefully, but we have no facility for invoking merry words when prospects do not seem to warrant them.

At present we have only 16 queens, and scarcely bees enough with them, for 3 good colonies. Unless Mr. Adair objects, on the ground that we have not earned the title, we would prefer to keep on as your old friend,
NOVICE.

P. S. It is no more than justice to ourselves to add that we made the remark over a year ago, that if *as much* honey could be secured in a hive of double width, as with the two story one we had better adopt it simply to avoid the laborious operation of lifting off an upper story in extracting. A trial of such hives in different localities, it seems, would demonstrate that full as much honey can be secured thus. Now the Langstroth frame was planned with an idea of a two-story hive, or at least for surplus boxes on top. Should we abandon them and spread the 20 frames out horizontally, we would have a hive much more difficult to handle than one with narrower and deeper frame; also, it would be difficult to make a cover for such a hive with a single board which can be done readily with a frame not exceeding 14 inches in depth. Mr. Langstroth suggests such a frame (see page 38 *Gleanings*) with no thought of Adair's "New Idea," and in deciding on the dimensions of a frame to be used solely for the extractor we had no idea of copying the above more than in adopting the frame which he had named the Adair frame in our classification of frames. This frame being about midway in length and depth between the extremes as Mr. Gallup partly states it, it would seem, that there would be a greater probability of its being adopted as a standard. Our reason for turning the frame crosswise is that, in using such hives in our Hexagonal Apiary they must almost of a necessity be turned so as to stand close up to the grape vine trellises, or they would obstruct our walks. We prefer the entrance in one or both ends, because in using a division board it can be adjusted without interfering with the entrances. In recommending our Standard hive to our friends we do it with no expectation of realizing any such great advantages as the advocates of the "New Idea" claim, over the two story hive. If it answers just as well we shall be pleased, because it lessens the labor of extracting; if it shall do all that Adair claims for it under all circumstances, we will most cheerfully record him the full credit of horizontal hives over two story.

Do not our readers agree that we are excusable in feeling much hesitancy in accepting Adair's reasoning? see page 129 Bee Breathing; and shall we clip Queens Wings? page 137. The former seemed to us to be only the reviving of an exploded theory so palpably erroneous as to require no other notice than to simply call it "folly". Prof. Cook has our sincere thanks for coming forward at a most opportune moment, and giving such support to our position, as could only be furnished by a skilled Entomologist. With pleasure we accept scientist's apology, and also thank him for his kind reproof.

Bees as Architects and Mathematicians.

Man is obliged to use all sorts of engines for measurement—angles, rules, plumb-lines—to produce his buildings and to guide his hand; the bee executes his work immediately from her mind, without instruments or tools of any kind. "She has successfully solved a problem in higher mathematics, which the discovery of the differential calculus, a century and a half ago, does not enable us to solve without the greatest difficulty." The inclination of the planes of the cell is always just so that, if the surfaces on which she works are unequal, still the axis running through it is in the true direction, and the junction of the two axes forms the angle of 60 degrees as accurately as if there was none.

The manner in which she adapts her work to the requirements of the moment and place is marvelous. In order to test their ingenuity, Huber glazed the interior of a hive, with the exception of certain bits of wood fastened on the sides. The bees cannot make their work adhere to glass, and they began to build horizontally from side to side; he interposed other plates of glass in different directions, and they curved their combs in the strangest shapes, in order to make them reach their wooden supports. He says this proceeding denotes more than an instinct, as glass was not a substance against which bees could be warned by nature, and that they changed the direction of the work before reaching the glass, at the distance precisely suitable for making the necessary turns, enlarging the cells on the outer side greatly, and on the inner side diminishing them proportionately. As the different insects were working on the different sides, there must have been some means of communicating the proportion to be observed; while the bottom being common to both sets of cells, the difficulty of thus regularly varying their dimensions must have been great indeed.—*Scientific American*.

For the American Bee Journal. The Bee Disease.

For three years past I have remained somewhat silent in regard to the calamity among bees termed, Dysentery, learning what I could from the bee journals and other sources; so many conflicting opinions have been expressed that I should even now be left in the dark as to the cause, were it not for the dear-bought experience I have had during these three years. I will give a few facts and let others judge for themselves.

In the spring of 1871 I took a quantity of bees to work on shares, the latter part of the season was very dry and no breeding of consequence was done. In the fall the man that owned the bees took his away. He sold some 20 swarms that I did not learn the fate of; about 60 that he retained were put in a cellar in the bank. All but two or three swarms came through in good condition. I had 110 swarms which I packed by the side of a tight board fence with straw betwixt, behind and above. Some 20 of the number were put into a cold cellar. All had the so-called Dysentery, and I lost 80 swarms before May. In the season of 1872 I increased up to 83 swarms, packed again as before in winter, not being satisfied but that was the best way yet to winter out of doors. In the spring of 1873, May 1st, I had lost 76 swarms, leaving 7, and 2 of which could be said to be in good condition; the other 5 seemed to be demoralised, killing and superseding their queens. All had the dysentery but the two swarms above mentioned, they were very strong. The swarms were a part of 14 left on their summer stand in the Badger State hive to test the quality of the hive for wintering. My neighbors again wintered his well in the cellar.

Not being entirely discouraged with my losses, I went at it again with a will. I bought some bees and worked some on shares, so that in the fall I had some 45 swarms.

Not daring to venture another Poland winter, I concluded to build a bee-house to put the pets in; I built it double-walled of wood, 8 inches between filled with sawdust, and the outside veneered with brick, made double doors and ventilated with my bees in, the thermometer indicating from 35 to 40 degrees above zero. I think it would have been better if I had seen it up to 50 as some of the very small swarms had the dysentery while all the strong ones did well, bred up and came out strong this spring; some of the stocks that I worked on shares the owner took away the last of November. I advised him to put them in a warm place but he had more confidence

in his own judgment than in mine. I saw him the first of April, "Well, neighbor," said I, "how are the pets?" "All dead," he replied. "Where did you put them?" "I put them in the barn on the scaffold over the north door. They were being opened half a dozen times a day all winter. A very little hay was put over them." This was the very worst place he could put them, unless on top the barn; well, I went to see them and sure enough they were all dead, while mine that stood by the side of his before dividing, were all alive.

With the experience I have had, I have come to the conclusion that long continued cold or dampness will produce the so-called dysentery. Weak swarms will suffer first even in the same room or out of doors. I would not say that some other causes might not produce a disease of a similar kind. I knew once some ten years ago that the bees died with a disease resembling the dysentery. The season before had been very wet, so much water in the honey collected that but little was capped over when cold weather came that winter. In the ensuing spring many bees died.

We are now brought to May 23rd. Bees came out of winter quarters comparatively good, but the long, cold spring has carried away probably one-half the swarms that were in good condition the first of April. So you see we have the blues again. I am running about 35 swarms at home. Some are in the Excelsior Hive, some in the Badger State Hive, and some in the High Pressure Hive, a combination of the two. It is so arranged that two single ones may be worked,—single at 2500 cubic inches, or combined may be made to hold five, ten or twelve thousand five hundred cubic inches. It may be worked with ten, twenty, thirty or forty frames. It may be worked two-story on Novice's plan, a long one-story on Adair's plan, with 40 six-inch boxes on Hazen's plan, with the twin hive plan of Gallup, or long boxes and little frames plan. I will report hereafter the success of each.

A. H. HART.

Appleton, Wis.

For the American Bee Journal. Do Bees Injure Fruit?

I have noticed a controversy in the AMERICAN BEE JOURNAL in regard to bees destroying fruit in which statements were made, I am sorry to say, in language that the subject did not by any means call for. We may present facts and arguments without unkind words.

I have been associated with bee culture half a century. Have kept bees and cultivated fruit together for about twenty years and will present a few facts. Langstroth

says at page 85 of his excellent work on bees, "the jaws of the bee being adapted chiefly to the manipulation of wax, were too feeble to enable it readily to puncture the skin even of his most delicate grapes." This was for me conclusive, but to the facts:

1st. Three years ago Thomas Atkinson introduced the Queen Bee Hive with a slide at each side to form an air chamber to equalize the temperature of the hive. This slide was made of paper-board nailed to a wooden frame, and the bees cut it into holes, till pints of paper dust had to be removed, and the paper-board had at considerable cost to be changed and wooden picture-backing put instead. This was the case with some hundreds of hives.

2nd. In transferring bees, to fix the comb into the frames, I tied the combs in with cotton cord, and the bees cut that and pulled it out, many getting fastened in the string and dying; they also cut out hemp twine in the same manner, and chair-seating cane is now used entirely.

3rd. Having 5 acres in grapes of many varieties, my daughter, in gathering Concord calls my attention to the bees alighting on the fruit on the other side of the trellis and eating the grapes; and both of the past seasons all of the family have watched the bees *alighting on perfect berries, cut the skin and fill themselves with juice*. It is so with the finer kinds of plums, pears and the thin skinned peaches.

My loss in this manner has been quite considerable. I love the bees, love to keep them, do keep them, and just so with fruit, but the facts are true and it is only just that they should be known.

Having had about 30 colonies the damage was considerable, but, then, bees are kept by my neighbors and they feast on the fruit as well as my own, and I would lose the fruit and not have any honey if I gave them up.

Whether there are differences in climate or in the want of a full amount of bee forage in St. Louis Co., Mo., it is at present hard to say. Nay, may not the instincts and habits of the bee develop, and as he finds fruit-juice more abundant and more easily obtained than the nectar of flowers, may he not prefer it?

As the season of all these fruits will soon be with us it will be a good opportunity to watch, make notes and report.

Names could be given as witnesses but facts will convince much better. Kind tones are more taking and equally as impressive as harsh, unkind words and low slang or innuendoes.

I feed my bees when they need it and never poison or brimstone them.

WILLIAM MUIR.

Fox Creek, Mo.

For the American Bee Journal.
Do Bees Injure Fruit?

In the June number of the **AMERICAN BEE JOURNAL**, Prof. Riley tries to sustain his position, by affirming that *he has seen bees cutting into fruit*. I have just read an article in the journal *L'Apicoltore* of Milan, Italy, (May no.) that I translate, in answer to that bold assertion.

"Being a lover of good wine, I manufacture mine with shrivelled grapes; my crop amounts annually from 30 to 40 *hectolitres** of such wine, worth an average 1 franc 75 centimes to the litre.† As my grapes are gathered, I spread them upon a mat of reed or straw, in a sunny place, in front of my apiary; where they remain to shrivel for about 15 days.

For the first two or three days the mats are covered with bees; but I do not care, for I know that they do no damage; having ascertained that they gather only the juice of the berries, rotten or damaged. As soon as the injured berries are sucked dry, the bees quit visiting the mats, for they cannot cut the skin of the berries. In my case I can say that, instead of damage, the bees help me greatly; for they take off entirely, from the bulk of my crops, the putrefied juices, which would give a bad taste to my wine." GACTANO TAXINI.

Coriano, Circ. di Rimini, February, 1874.

I think that after such testimony, the assertion of Prof. Riley is of little account.
 Hamilton, Ill. CH. DADANT.

* An hectolitre is equal to 25 gallons.

† Equal to \$1.40 the gallon, that price is very high for Italy.

For the American Bee Journal.
Doolittle's Article.

Our bees had but four days on which they could fly, from March 3rd to May 4th; and by the 15th of April all brood rearing had ceased in small and medium stocks, and pretty much so in large ones. On March 18th the mercury rose to sixty degrees in the shade, and bees were seen at work quite briskly on stumps of the sugar maple, but with the night it became cold and we had steady winter weather until April 15th, when they had a chance to fly again. On April 19th, 22nd, and 25th, snow fell to the depth of one foot, and lasted until May 3rd, during which time the mercury did not rise above 41 degrees, even in the middle of the day, and went down as low as 18 degrees.

May 9th it came off quite warm, and the bees began to hatch the few eggs the queen had laid, and brought in the first pollen of any account, which was from elm and soft maple. Skunk's cabbage was in full bloom from March 20th to April 18, but it

was so cold that the bees could not get to it. On the whole, we think it was the worst spring for bees we ever knew. May 4th the first day that we could really work at bees, we examined them and found some so weak that we thought it best to unite them. We did so, and now have 51, one of which proves to be queenless, so we shall call it but 50 stocks to commence the season with. Golden willow commenced to blossom May 20th, from which our bees frequently get from 5 to 7 lbs. of honey, but owing to the cold and rainy weather they could get nothing, and what was worse still, they killed nearly all the larvæ; so little but sealed brood and eggs remained. May 24th it became warm again and our bees have done their level best ever since, and the hives are beginning to be quite well populated with bees. Apple trees blossomed May 29th and our strongest stocks made a gain of 12 lbs. of honey during the time they were in bloom. White clover was nearly all killed from freezing the past winter, so we do not anticipate much from that, but basswood hangs as full of buds as we ever saw it. We forgot to say we put one swarm in manure "a la Novice," and that died out-right some time during the cold weather of April. Our first drones were flying June 5th, which is nearly two weeks later than we ever knew them before. We have spread the brood once in six days, so we have our strongest stocks nearly full. What we mean by full, is brood in from 8 to 10 Gallup frames.

By the way does not Gallup and Adair get off some pretty big notes about the capacity of a queen for laying? We have had queens from nearly every breeder in the United States and the best we ever had would not keep more than ten Gallup frames full of brood, or about 900 square inches of comb occupied with brood for two months in succession. We came to the conclusion that 800 square inches of comb would be about the average, so last year built our new hives to hold but nine frames instead of twelve. As the bees will have some honey and pollen in their combs the 9 frames give us about 800 square inches of brood, or 1380 cubic inches comb space. We place 42 boxes of 2 lbs. capacity in this hive and expect to get all the honey the bees make in the boxes, but last year they stored enough to winter on in the frames.

Why does not Adair tell us how much honey he receives on an average in his apiary with those prolific queens and large hives? Let us figure a little and see what is best. 800 square inches of comb would give 40,000 worker bees every 21 days or 1,905 every day, and as 45 days is the average life of the bee in the working season we would get 85,625 bees on the stage of

action at once. 21 old stocks of the above brood capacity worked by us in 1873, produced on an average 80 lbs. of box honey, and 60 stocks worked by N. N. Betsinger, Marcellus Falls, N. Y., produced on an average 100 lbs. of box honey. Now as 4,000 cubic inches comb capacity (the amount Gallup and Adair say their prolific queens will keep occupied with brood) is nearly three times the capacity of the hive used by B. and myself, they must get the enormous amount of 256,000 bees on the stage of action at once. This would be 5,700 bees daily or that amount of eggs for the queen to lay every 24 hours. As it is estimated that, by the use of the extractor one-third more honey can be obtained than with boxes, an apiary with such queens should produce on an average 320 lbs., to be equal to that produced by us or 400 lbs. to equal that produced by Betsinger. As Gallup's hives worked exclusively for extracted honey produced in 1873 only 100 lbs. per colony (the same amount produced by Betsinger in boxes) and as it will take three times the honey to feed the brood in the large hive, we will leave the reader to tell which is best—one colony in a large hive to produce 100 lbs. of extracted honey, or three colonies in small hives with the same amount of brood to feed, to produce 300 lbs. of box honey. If friend Adair can give a better report than Gallup we would like to hear from him on the subject, as we want all the light we can get.

G. M. DOOLITTLE.

Borodino, N. Y.

For the American Bee Journal.

How to Introduce Queens.

I write with a sincere desire to benefit many a fellow bee-keeper, who, when the fine golden queen arrives will ask himself the perplexing question—"How shall I introduce her." I have been so uniformly successful since I adopted the following method that I unhesitatingly recommend it. It is certainly as safe, and I verily believe much safer than the common practise of caging, and the advantages over that plan are too obvious to need mentioning.

To illustrate—Have a new queen at hand, also two empty hives B and C, the latter should be nicely cleaned. Now open A and proceed to find the queen you wish to supersede. This over, the work is soon over. I look over the frames, guess where she is and lift that frame out first. When satisfied she is not on it, place it in B, and try another. If not found on this, the chances are, if she is a black queen, that you will have to search the corners of the hive for they are shyer than the Italians. The queen dispatched, remove A and place C with its entrance near where that of A

stood, but with positions reversed. Now replace the combs in C, first shaking off the old bees. The young ones will do no harm, and in order to confuse the bees still more, I change the positions of the frames where the combs will admit of it. These all in place, cover with the quilt, now roll up a corner at the back end, and slip her majesty in, roll back and put on the cover. Place a hiving-board in front; put the two hives (if there are bees in both,) at the foot of this on their sides, and let the bees enter A gradually, like a natural swarm, thus introducing them to the queen, who by this time is less confused and feeling more at home than themselves. The bees all in, the hive should be turned so as to occupy the exact position that A did. No bees will be lost, and my experience has proven to me that all will be well. The regular order of business resumed at once, the same as if no change had occurred.

Perhaps I ought to have said, that I usually have at hand some sweetened water scented with peppermint and sprinkle the combs slightly before putting on the quilt, and also the bees, before allowing them to enter, though I have occasionally omitted this precaution, and observed no difference in the result.

E. K. G.

Appleton City, Mo.

The Late Dr. T. B. Hamlin.

It is a painful duty to announce the death of so prominent an apiculturist as Dr. T. B. Hamlin,—one who as a friend was so highly esteemed by all who knew him. This sad event occurred at his residence, near Edgefield Junction, Tennessee, on the 24th of last May.

Dr. Hamlin was born at Red Hook, on the Hudson River, N. Y., in June, 1810. At the age of sixteen he was left with no near relatives and but little education. His prominent position and financial success in life are wholly due to his own indomitable energy and perseverance combined with his uprightness of character. At about eighteen he was foreman of the largest watch-making establishment in Albany N. Y., and probably the largest in the United States. After preparation in dentistry at Albany and while watchmaking in Lee, Mass., he commenced the practice of that profession in Virginia. While there he took an active part in the organization of the first dental association known in the world. He afterwards removed to Alabama and thence to Nashville, Tenn., where for twenty-five years he followed his profession with eminent success.

More than forty years ago the young watchmaker of Albany, shortly after his marriage in Lee, Mass., where he had established in watch-making, commenced the keeping of bees. This last named occupa-

tion was continued for many years thereafter in connection with his profession as a dentist. In 1861 his health, which had failed early in life, became quite poor, and he gave up the practice of dentistry and repaired to the sea-coast at Newport, R. I. At the close of the war Dr. Hamlin returned to Tennessee and devoted his whole attention to bee culture and the nursery business. The extensive business of the "Cumberland Nurseries" which he established in connection with Mr. B. B. Barnum—a practical nurseryman, was conducted mainly by the latter, while he devoted his attention almost wholly to the apiary. He was the first to introduce the Langstroth movable comb hive and the improved methods of bee culture in the South, and to engage in the importation and rearing of Italian bees, which he did extensively, and aided in their introduction throughout the United States. He assisted greatly in establishing the "Tennessee Apian Society" of which he was President, and also, the "National Bee-Keepers' Association," being Vice President of the latter at the time of his death. His interest and enterprise in the promulgation of apiarian knowledge, especially in the South are worthy the highest encomiums. His own success in increasing his bees from a few colonies to over three hundred and continually getting large returns from them, furnishes a practical proof of the reliability of his teachings. His little work on bee culture has wrought a great change in the manner of keeping bees in many localities here.

Dr. Hamlin's marked energy of character, his perseverance, his lofty aspirations after perfection and his kindness and affection as a husband, a father, and a friend are well worthy of imitation. An upright, zealous member of the Church, a prominent leader in the Masonic fraternity, held in high appreciation by the members of his profession, and an enthusiastic master of apiculture, he is mourned by a large circle of friends and relatives, who alone are comforted by the knowledge that he so lived that

"When the summons came to join
The innumerable caravan that moves
To the mysterious realms, where each shall take
His chamber in the silent halls of death,
He went, not like the young slave, at night,
Scourged to his dungeon, but sustained and soothed
By an unflinching trust in God, he approached his grave
Like one that draws the drapery of his couch
About him, and lies down to pleasant dreams."

FRANK BENTON.

Edgefield Junction, Tenn.

The bees do not deposit in the cells all the pollen they gather. Many of the pellets are taken from the gatherers as they return with laden thighs, and are consumed, to qualify the workers for secreting wax or preparing food for the older larvæ.

Sundry Questions and Answers.

CONDUCTED BY CH. DADANT.

QUESTION.

As you are in charge of the questions in the AMERICAN BEE JOURNAL, I would ask you to answer the following through the JOURNAL. I would like to import queens myself. To whom shall I send? Are the queens sent through the mails or as freight? and at what cost? What proportion usually reaches this country in safety? You could give much information to many readers on these points.
Hartford, N. Y. J. H. MARTIN.

ANSWER.

For the last seven years I have been trying to find an Italian bee-keeper able to send queens so packed as to reach this country alive. Since my return from Italy, I have received three invoices; one containing 30 queens: 28 were dead—only two were alive. What was the matter? The Italian breeder had failed to comply with the simplest precautions that I had indicated.

In a subsequent invoice all the queens were dead, for the same reasons.

It is impossible to imagine how queer are the ideas which can germinate in the minds of the Italian bee breeders. In an invoice of 14 queens, I found five that were put up in queen cages, very pretty queen cages indeed, with two or three workers, and all dead of course. In that invoice one queen alone was alive, after 23 days journey; it cost me more than \$50 in gold.

In his second invoice the same man tried a second time his queen cages, in spite of my warning, and refused to replace the queens that died in them, and feared that it was impossible to send queens here alive.

Another bee-keeper sent me 16 queens, and put under the package, without my cognizance, three bottles of wine for sample. My correspondent at Havre informed me that they were seized by the French custom-house officers, while I was here going every day to the express office, and writing everywhere to know why my bees were so long to arrive at Hamilton. I wrote to the sender to replace them, but he made his second invoice so unwillingly and so carelessly that very few queens arrived here alive.

I could narrate many more of these costly experiments made by the Italian breeders, at my expense.

In my long experience I have received but two or three invoices which could give a beneficial result. Combs broken or loose in the boxes; too many or too few bees; too much or too little honey; sponges with sugared water; unsealed honey; sealed brood instead of honey; rough handling; boxes placed on their sides or in the vicinity of noxious matters in the steamers; too long delay

in the voyage; and moths. Ah! yes, moths! One day I received a package of 16 queens; not one live bee in the 16 boxes, but plenty of living and flying and creeping moths in every box. How good that smelled? Prof. Mona wrote to me, a few years ago, that, in Italy, it was impossible to send bees without sending moths; the winters are too mild there to kill the moths.

Never have I seen so many moths, at the same time, as in a well known and far famed apiary of Italy.

In fact, I have received but one package without moths and that invoice was the last, received a few days ago, with 8 living queens. Eight living queens out of 16, after 37 days journey. That was marvelous; but the bees were so carefully packed; the little attentions that I had prescribed had been so completely observed, together with some others so intelligent and ingenious cares, that I have at once sent to that careful breeder an order for 100 queens, to be sent in six packages, from week to week. This man lives not far from the shores of the Adriatic Sea, in one of the best bee districts of Italy. He is a very careful and successful Apiarian. I could say, the first careful bee breeder that I have found in Italy.

Many bee-keepers, of this country, after losing money in their importations, have given it up in disgust. But, in spite of the losses and disappointment, I have persevered; surely there are some conditions which would insure success. Of course I had to learn these conditions, one after another, by examining the boxes on their arrival here; the requisites of a successful journey being determined, the most difficult to be found: a man who could comply with them without varying, to do better.

The importation of bees is like gambling, with its illusions and its deceptions. When the bees arrive, I feel the same sensations as a gambler at the lottery; and too often the result is the same: loss, dead loss. But to-day I am sure to have turned the chances on my side; if the man continues to prepare the bees as he has done for his first invoice, and I do not doubt it.

QUESTION.

In your answer to H. A. SPRAGUES in the June No. of the AMERICAN BEE JOURNAL, you say that you know of no honey yielding plant, good for hedging, in this country. Will not the honey locust, (*gleditschia triacanthos*) answer the purpose? EDGAR SAGER.

ANSWER.

The honey locust would make a good hedge were not the cattle so fond of its leaves and young sprouts. I know a Frenchman who tried it, but had to protect his hedge against the teeth of his cows.

QUESTION.

I wish to know what color the pure bred Italian bees are? I purchased a queen two years ago, about two-thirds of her progeny are what I take to be pure, that is are not quite as dark as the native bee, with three yellow bands around them; the others are about the color of the native bee. I fear she is hybrid, will you please inform me upon that point. W. F. FERGUSON.

ANSWER.

The pure Italian bees have three leather colored bands around the abdomen, i. e., the first small ring which is attached to the corslet, then the second and the third. This third ring is more or less bordered with black. When the bee is empty, the leather color disappears and the bee seems to have but two yellow rings. All the bees in a pure colony have the three rings visible, in the young bees as soon as they have taken their first meal; in the old bees when they return from the fields in the time of honey harvest. Sometimes, even in Italy, there are a few black bees among the thousands of well marked, but it is not a mark of impurity.

The color of bees is not always a sure test of purity. By selecting the yellowest queens, for several generations, there are produced bees with so much yellow and so thin black borders on the rings, that a slight dash of black blood cannot be detected in their progeny. It is on that account that some queen breeders do not like the imported Italian queens, the smallest stain of black being visible in their progeny, these breeders obtain from them a less number of seeming pure queens and consequently they claim that the Italian bees are injurious. Yet this false idea is fast disappearing, for I have received lately orders from breeders who three years ago complained of the Italian queens; and who now want dark colored bees, because they are more hardy and more fertile than the light colored.

As for myself, I consider the color of the bees but a second test of purity. My first test being the demeanor of the bees, when the combs are taken out of the hive. The quieter, the purer are the bees.

If the progeny of the queen that you received two years ago was then such as you describe it, she was impure. It is more probable that, after you received her, she was replaced and that her daughter failed to mate with a pure drone.

QUESTION.

I am using the Langstroth hive—is it good? I think if there is any better, I would like to know it. W. T. F.

ANSWER.

The Langstroth hive is good, but I prefer the old Quinby (not the new) enlarged to 11 or 12 frames. I use two sizes of hives: Quin-

by with from 11 to 16 frames 18 inches long by 11 inches deep; and the American with 16 frames 12 by 12 inches, with partition boards in both. Every year I find that there is more brood and more profit in the larger and shallow frame. If I was to begin anew, I would choose a hive with 11 frames 16 inches long by 12 high, inside; or $16\frac{1}{2}$ by 13 outside. I give to the upper bar of the frames, $\frac{3}{4}$ inch of thickness, to prevent warping under the weight of honey.

For winter the brood chamber is reduced by the partition boards to 8 frames, with a dead space on both sides.

To Beginners in Apiculture.

BY PROF. A. J. COOK.

One beginner had a colony swarm last week, and though he hived them according to the rule already given, and although they seemed to take full possession, yet one thing was omitted—putting a comb of worker brood in the new hive,—and in about an hour all came out and left for a wood-land home. And thus was lost a splendid colony of Italians, worth at least \$10.

Another beginner,—Mr. B.—was following directions, but as the queen cells were not yet capped, he thought to wait a little longer, and went to business as usual. About 9 o'clock a prime swarm issued from one of the two colonies. Mrs. B. who had never seen such a thing done, but had carefully read directions, and talked them over with her husband, went bravely at work, followed directions exactly, and the result is that Mr. B. now has three fine colonies instead of two.

So let me repeat, that I may emphasise the advice, *never* hive a colony in case of natural swarming,—which will occasionally happen in the best regulated apiaries,—without putting into the hive some brood, even eggs will not do. There must be capped and uncapped brood, and the above experience makes the farther advice pertinent to all beginners who are in the bonds of single bitterness, immediately procure a brave intelligent help-meet.

Again our beginner should commence to start some more nuclei, for all the summer through, queens will be needed. If the season is good you may at least hope to increase from two to six, though if the season is not *extra good*, you must not expect much honey with such increase. You also may need to replace poor queens.

Be sure that all through the months of June and July, your bees have plenty of room, thus you will be more apt to get worker brood comb—that with small cells—and more than this, you will preclude that necessary idleness, which can never be conducive to the happiness and well being of

the “busy bee.” Every hive should contain empty cells, and empty frames, that the gatherers may have room to store, the queens to lay eggs, and the comb-builders to form their beautiful white structures. A non-observance of this advice, and the workers will hang outside the hive, the palets of wax go to waste, and, the queen ceasing to lay eggs, the colony will become weak, unable to protect itself against robbers, and moths.

We are now in the midst of the locust season, at the dawn of the white clover, and that regal season,—the bass-wood—will come very soon. So now, as seen, is the time to get our box honey, if we desire it. Simple boxes will do. They may be made from six to ten inches each way with glass on two sides and long narrow holes cut in the bottom, the top and other two sides of half inch pine, put these immediately on the frames.

During the hot weather be sure to have your bees shaded from the hot sun, not at morn, and eve, but at noon-tide. I have known bees to honey outside the hive just because they could not endure the oven-like interior. The formation of a screen, by placing boards a little above the hives, worked like a charm. Idleness was at once banished, and the happy hum of returning industry, told of a rich harvest of prospective sweets.

One new beginner has already banished veil and bee-gloves. Another was *too* rash, and was fearfully stung. It is best to use a good degree of caution and smoke, and retain at least the veil, till all show of nervousness is gone, and you have a perfect understanding with your pets. My friend, and old pupil Mr. E. Benton, now in charge of the large Edgefield Junction Apiary, writes me that the late Dr. Hamlin—whose urbanity, candor, and Christian integrity were so pre-eminent that his decease makes a sad loss in our fraternity—never used smoke and did not believe in it. He further adds that the bees were very cross. In early spring and late summer and autumn, I believe that even the experienced Apiarists had better use smoke.

If any find a queen missing before having extra queens, give the colony comb with eggs from your best queen. In my next article I will give directions for introducing queens.

Agricultural College, Lansing.

It is a common practice to rub the inside of a hive with aromatic herbs, a solution of salt, or other substance, with a view of making the hive more acceptable to the expected swarm. But the most experienced and observant bee-masters deem this altogether unnecessary, if not injurious.

For the American Bee Journal.
Feeding Bees.

I find in our bee journals considerable written upon the subject of feeding bees. I think it an object worthy of consideration and effort, to find and pursue a system that will save the necessity of feeding at all. To secure this it is only necessary to adopt a hive in which we can effectively control the swarming and limit the number of colonies to the amount of honey produced by the accessible field.

The great body of farmers do not desire to, and will not make, bee-keeping a principal business. What they do in securing the honey produced in their fields must be done incidentally, other interests of the farm claim their principal attention. I presume few will be found among them to use movable comb hives, to raise Italian queens; or honey extractors to furnish extracted honey for market. That must be done by experts in the business, whether they are farmers or not.

For them the best hive will give about 2,500 cubic inches in the breeding and wintering apartment; and as much more in small frames or boxes, for storing surplus. With such an arrangement, the bees will be very likely to make a fair arrangement with the farmer, and gather the honey in his and other surrounding fields, at the halves. If the field is very good and the season fine, they give him two-thirds, requiring only one-third for consumption. My enquiry is whether it will not be better to give this room in the breeding apartment, and save the necessity of feeding at all.

These thoughts have occurred to me now on reading, P. W. McFartridge's experience, in the May number of the AMERICAN BEE JOURNAL page 112—he gives as the product of his apiary a little over 4,000 lbs. He tells us that he has fed 1,100 lbs. of A coffee sugar, and that 200 lbs. of the honey soured a little he reserves for feeding. This leaves 2,700 lbs. of honey.

With 250 cubic inches ample room is given for storing a winter's supply for the bees, and feeding is unnecessary.

There must, however, be another condition implied to prevent danger, that is, that there are not too many colonies in the field. If there are more colonies in the field than can be supplied with winter stores, they must be fed or starve, even if each colony had a meeting-house to work in.

I find it difficult to so express my ideas upon this subject as to be understood.

1. If an apiary is located in a field yielding 12,000 lbs. of honey, and each colony of bees for breeding and winter, will consume 60 lbs.; 200 colonies would consume it all.

2. One hundred colonies would consume

6,000 lbs. and give 6,000 lbs. in surplus.

3. Fifty colonies would consume 3,000 lbs. and give 9,000 lbs. in surplus.

4. If you put 300 colonies into the field there would be but an average of 40 lbs. to each colony for both breeding season and winter, and a great amount of A sugar or something else must be fed, or almost all of them starve to death.

In the last case a few of the strongest colonies might get an early start, and live throughout the winter. Possibly some of them give a little surplus; but nine-tenths of them more or less would starve to death. Some of them would die so early that the moths, in their weakened state, would weave their webs. Some of them would wander over the combs defiling them.—Some would crawl or fly out of the hive and die, and some would try robbing to make a living. Nobody knows what the matter is. Some lay it to the moths; some to dysentery; some to robbing; and some to "don't know," while the whole truth is there are far too many bees. There might have been some cases where the bees left some honey in a part of their hive that was out of their reach in a cold spell, and it is even said, "Oh, no they did not starve to death, there was honey left."

In the case of 200 colonies having 60 lbs. each in the field, perhaps one quarter just go through the winter and only half perish.

In the case of 100 colonies they would not give 60 lbs. each but some might give 100 lbs. and some 20 more or less.

So in the case of 50 colonies, 180 lbs. each. As has sometimes been known they may range from 100 to nearly 300 lbs.

What I would urge is that 100 colonies in the supposed field is better than 200. And 200 colonies is better than 300.

Indeed the farmer had better have no bees than to have so many more than his field will supply. From 50 to 100 colonies is a full supply for the field; 100 colonies would store half the production in surplus.

While we are taught by some that "there is no danger of overstocking the field," I believe without one doubt that three-fourths of the difficulties we encounter arise from overstocking.

Woodstock, Vt.

JASPER HAZEN.

For the American Bee Journal.
My Experience.

It is some time since I have written for the AMERICAN BEE JOURNAL, but during that time my experience has been worth gold. In 1872, I lost 43 hives by dysentery, and last year, I lost 15 hives from robbery. At the end of the year I bought a beautiful \$2 queen from "Olley." This queen died last season in a strong hive, which started cells profusely. I counted

52 cells on a single frame. I Italianised my whole Apiary. I had carefully cut away all drone brood from the black bees and left my pure Italian drones to preserve the queen cells. As soon as one queen came out a black queen was killed and her body cast out.

One day I had occasion to go to the blacksmith's, on my return home, I found my whole farm on fire; in less than an hour everything was consumed except my bees, and an old potatoe cellar. I and my family took shelter in an improvised log hut for 14 days. Then I had prepared a new abode, and was prepared to put my bees in the cellar by Dec. 14th. They needed feeding all winter. Lost one, and had 31 left. Fed with coffee A sugar.

On Feb. 1st, I examined and found all in good condition.

On March 15th, I found one hive dead from dysentery, another queenless and a gallon of dead bees on the floor.

As soon as the cleansing was done, I fed them warm honey, poured in the large drone cells on one side; then that was set outside to cool, then laid it down on a newspaper, honey downwards and poured the other side full. Such frames contained from 4 to 6 lbs. Feeding was easy in that manner. I fed until the 5th of May.—April gave me one day that bees could fly. I have lost 6 swarms in all. I intend to run up my swarms this summer to powerful colonies.

I intend to experiment with the Gallup system. My frames are all 12x12, this is my standard. JOSEPH DUFFELER.

Wegnoick, Wis.

Spare the toads, but place your hives out of their reach, for they can soon destroy a strong colony if they can get near enough to the entrance to catch them, as they pass in or out. Watch the toads late in the evening and at night.

Many people are fond of bees—indeed have a passion for them; but it is not enough to be fond of them, they must be skillfully taken care of, according to certain rules, applicable in every case, but more particular in bad years. Mistaken care annoys them—niggardliness ruins them.—*Exchange.*

Hives, or the habitation in which the bees live, breed and work, have been made of different materials, and in different forms, according to the fancy of people of different ages and countries. Melissus, King of Crete, is said to be the first who invented and taught the use of bee hives.—*Bonner.*

For the American Bee Journal.

Gallup on Artificial Queens.

We have never, to our recollection, given the readers of the AMERICAN BEE JOURNAL our ideas in full on artificial queens. We have given them in Mr. Mitchell's paper, and sent them in full to Mr. King; but he was afraid that his readers might learn something contrary to his teachings, therefore did not publish it. In my opinion "Novice" and others have led many a beginner astray, by advocating that there was no difference between artificially and naturally reared queens. Langstroth, Grimm, Adair, and the late Dr. Hamlin, and others, agreed with me in full. Quincy says that there is no difference and even went so far as to accuse me of never having had any practical experience in raising queens, etc.

Now to the question. What are the conditions for natural queen raising? We have abundance of bees, consequently warmth, we have abundance of food of the right kinds, and we have abundance of young or nursing bees to prepare that food properly for the queen larvæ. Now if the novice in the business will see that he has all those necessary conditions and eggs or larvæ just hatched, whether in nuclei or standard hives, he or she will raise natural queens every time—nothing artificial about them. On the other hand, we will suppose we do as many queen breeders have done; raise artificial queens about in this manner: Measure out a sufficient quantity of bees, place them in a nuclei hive, and give them comb, eggs and honey and no pollen. Confine them for 3 or 4 days before giving them their liberty, and in a majority of cases pay no attention to the age of the bees selected, but get mostly old bees, or those incapable of digesting or preparing the natural food for the larvæ, etc. Queens raised under those circumstances are artificial, or raised under circumstances contrary to nature. In such cases queens have hatched out in nine days repeatedly, and in some instances they have been known to come out in eight days; but we never have nine-day queens, if we make up our nuclei of young or nursing bees. For the novice in queen breeding must bear in mind that bees at a certain age are incapable of digesting pollen, and preparing the necessary food for larvæ. Now we will tell you how we raise queens. If in nuclei hives, we use three standard combs and always keep abundance of nursing bees, and if they do not gather pollen enough we supply them with pollen from other hives, and we like to have them have quite a quantity of larvæ on hand to feed, at the time of starting queen cells, so that they are preparing the necessary food in large quantities, and

we raise natural and prolific queens, every time,—there is nothing unnatural about them that we could ever discover. Now, suppose, as soon as the young queen becomes fertile and commences laying, we remove her and allow the bees to start queen cells from those eggs. There is no larvæ to feed, as it is all sealed or hatched out, and the bees are well advanced as to age, or in other words there are but very few nursing bees, etc., we may succeed in raising a good queen, and we may not. There is no certainty about it. Thousands of queens have been sold by queen breeders that have been superseded the first or second season after being received. A good queen properly raised ought to be good for four seasons. Langstroth and Grimm know how to raise good queens, but they could not raise them for \$1 each, consequently both have quit the business.

We might have explained our ideas long ago on this subject, but we should not then have drawn out so many ideas from others. In other words, we like to have those that have received their first stock of bees give us their instructions. It amuses us hugely!

Now "Novice," would it not have been just as well to have criticised Gallup on the queen question, after you knew what his ideas were, as to criticise before you knew? Give us a clip and see what effect it will have.

I like "Novice's" grit. He gives his instructions to-day and contradicts them to-morrow, and thereby gets himself into inextricable snarls, yet he never gives up, like our friend Price, who killed himself by trying to instruct others in what he did not know himself.

For the American Bee Journal.

My Mary Ann.

My beautiful, beautiful, Mary Ann.—Yes! that same old story over again. The crow whose chicks were white. Not so fast my friend; not so fast: She is not my daughter, neither is she a blonde; but a bronze colored queen.

Well; why such an ado over Mary Ann; others have raised queens as good as she, and have made money too with bees, which is more than you have done. Let me feel joyful over Mary Ann any how.

I value money, from the enjoyment I can get from its use. What if the coffee A does disappear mysteriously. You know "my dear," we have not had a doctor in our house professionally, since those bees arrived at the express office, so strangely.

The doctor always said, exercise in the open air. How much good could I get, sweeping the side-walks with trailing skirts? You do not wear trains. I know

I don't; but when a person talks to me of taking a walk for exercise, I think of the Yankee who wanted work, and a man told him, he would hire him; and set him to pounding on a log, with the head of an axe. He tried it awhile, but soon threw down his axe, exclaiming I can't do this: I must see the chips fly.

You always scatter so. I thought you were talking about Mary Ann. You keep quiet now, while I tell of Mary Ann's wrongs.

I have already been taught to respect the advice and opinion of the stronger sex; so when Mr. Harrison recommended putting Mary Ann in the cellar, I silently acquiesced. Put those five in the cellar, they will consume less there; (I knew all the time coffee A had much to do with it).

We tucked Mary Ann, and her companions under their quilts, and carried them gently into our cozy little cellar. When old boreas raged without, how thankful I felt that these "fire pets" were protected from his blasts.

These bees flew on the 7th of Nov., and we put them in the cellar on the 10th. We carried them out for a fly, on the 2nd of Dec., returning them as soon as quiet. On the 3rd of Jan., the thermometer being at 76, at 11 o'clock, carried them out for a fly. They all flew finely, but I did not like the appearance of the combs.

On the 11th of Feb. carried bees out, finding them in a dismal state; O, those bed clothes; damp and disagreeable; no more quilts for me. Some of the colonies had quarts of dead bees. Plenty of honey, with no appearance of dysentery. As the weather was very warm, I cleaned out the hives, and placed them on the east side of the house, protecting them on all sides, except the front, with straw. Made little sacks and filled them with straw, that just fitted into the porticos, so the wind could not blow them out. Every night, on a cold and windy days, I protected the fronts in this way.

Every fine day some of these bees went a visiting, and forgot to come home. One by one they dwindled away, until May 12th I found I only had Mary Ann and a handful of bees. I caged her and filled up the hive with frames of brood and bees, releasing her the next day, after sprinkling all thoroughly with sweetened water, scented with the essence of sweet anise; she is now the adored mother of a thriving and prosperous colony.

I wintered successfully 11 colonies in the open air. Hereafter, I shall winter in the open air, as the Dutchman says "shingled mit straw," every time. I put in the cap, a gunny sack filled with straw, raising the cover slightly for ventilation.

Peoria, Ill.

Mrs. L. HARRISON.

American Bee Journal

W. F. CLARKE, EDITOR.

CHICAGO, JULY, 1874.

Theories and their Advocacy.

It is during the working season that most of the theories of bee life are evolved from the apicultural mind. While the bees are busy building cells, the bee-keepers are busy building theories. There are minds that have a natural faculty for the construction of theories, even as bees have a natural faculty for cell-construction. Theories ought always to be the results of observation, and should be based on facts. But they are often like those pleasant stories we sometimes meet with, and which are headed, "founded on fact." This is generally fair notice that among what is strictly true, there will be interwoven a good deal that is purely imaginative. Imagination is very well in its place, but it must be excluded from the realm of science. It is pleasing and useful in light literature, but considerable of a nuisance mixed in with the solid and sometimes prosaic affairs of real life. Not a few of the most important of human interests have suffered from the tendency of mankind to spin theories out of cobwebs, and to go to the realm of investigation with their theories ready made. Most of the difficulties in theology have arisen out of preconceived theories, which their authors have sought to uphold, when framed, out of the Book. Bee-keeping has suffered in the same way. People have gone to the hive to get evidence in support of a favorite theory, instead of going to it without any theory, to gather facts as the material out of which to manufacture theory. A certain member of the British Parliament was frank enough to confess that he trusted to his memory for wit, and to his imagination for facts. Not a few draw on the imagination for facts, who have not self-knowledge enough to be aware of it, nor candour enough to own up about it. Theories

require the utmost deliberation and care in construction, and, like Italian queens, are not worth much until well tested.

When a theory is adopted on what are considered sufficient grounds, it should be advocated with modesty and forbearance. Haste in forming a theory is usually followed by dogmatism in contending for it. A man who is patient in constructing a theory, will be patient in urging it upon the acceptance of others. Slow in espousing it himself, he will not be surprised to find many who are slow as himself, if not slower. Impatience to get credit and honor from those to whom a theory is announced, not unfrequently betrays theorists into unseemly behaviour. Some espouse theories as they do matrimonial partners, and afterwards illustrate the proverb about marrying in haste, and repenting at leisure.

Theories, if well-founded, will bear the test of criticism, and the sensitiveness of many to a dissenting word, argues no great amount of confidence in their own views. What is based on fact, can never be overthrown. It is like the "tall cliff" immortalized by a great poet :—

"Though round its base the rolling clouds are
Eternal sunshine settles on its head." [spread.

We commend these general, and as we think, timely remarks, on "theories and their advocacy," to all and sundry who write for the AMERICAN BEE JOURNAL.

Bees and Grapes.

It has often been insinuated by the ignorant that bees injure fruit; and some time ago, a benighted little village in New England undertook to expel all bees from its limits because of their supposed depredations. An American naturalist of some note, not very long since brought this accusation against the bees, and recommended fruit-growers to protect themselves against these industrious insects by the use of certain recipes that would attract and destroy them. But the great majority of fruit-growers are too keenly alive to their own interests to take any steps toward the suppression of bees or bee-keeping. It is pretty certain that by collecting and distributing the pollen of plants, the bees

accomplish fructification in many cases where otherwise it would not take place. There is no conclusive evidence to sustain the suspicion of their injuring fruit. Ch. Dadant, who is now settled in Illinois, but who for many years kept bees near the hills of Burgundy, says in a recent number of the AMERICAN BEE JOURNAL, It is well established that bees are unable to cut the skin of grapes. In order to ascertain the fact, the most juicy and sugared grapes, pears, sweet cherries, plums, apricots, etc., were put inside the hives; never have the bees attacked them if they were not previously scratched. The experiment was repeatedly made; it was discovered also that the first cutting was made by a kind of wasp, or by birds, or caused by the rain falling when the fruit was ripe.

A Wisconsin bee-keeper also writing to our journal says, "Last fall I took a bunch of Delaware grapes (the most tender variety we have here,) and put it on a hive, directly over the bees, and watched proceedings; but not a single berry was opened; then I broke a few berries, upon which they went immediately to work, sucking them dry, thus showing that something besides bees does the mischief."

The idea is entertained by many intelligent bee-keepers, that where the bees have been suspected, with any air of probability, of doing injury to grapes, the skin of the fruit must first have been punctured by some other insect, thus affording the bees access to the pulp. On this point a correspondant of the *Rural New Yorker*, writing from Marcellus, N. Y., says:—"There is much complaint made in the papers of bees eating grapes in different localities, which I doubt not is true; but I wish some scientific man would give a close examination, even with a magnifying glass, and see whether some insect has not been gnawing the skin in the night; for we know that the corn worm comes at night, eats off the blade, and the snail eats holes in the young tobacco leaf and is not seen in the day time; and there may be insects flying in the night, like the lightning bug, that gnaw the grapes. Now, in this section almost every house has a grape vine, and there are bees kept in many

places all over town and this village; and I have kept bees and grapes over 30 years, but have never heard the first complaint. I wish there could be some close examination made."

Back Volumes.

Complete sets of back volumes are scarce. But few can be procured at any price. We have a set, consisting of the nine volumes (complete), which we offer for sale, either bound or unbound, for a reasonable sum. Many of the numbers we have paid fifty cents each for, to complete them.

We have several single volumes (complete) which we will send postpaid for \$2.00 each.

Several volumes, which lack only a single number of being complete, we will send postpaid for \$1.50 each.

Vol. 1, we can supply in cloth boards, postpaid, for \$1.25. Bound in paper covers, \$1.00, postage 10 cents. This volume is worth five times its price to any intelligent bee-keeper. It contains a full elucidation of scientific bee-keeping, including the best statement extant of the celebrated Dzierzon theory. These articles run through eight numbers, and are from the pen of the Baron of Berlepsch.

🐝 Beginners in bee-culture, who desire to read up in the literature of bee-keeping, are earnestly advised to obtain these back volumes. Many of our best apiarians say they would not sell their back volumes of the AMERICAN BEE JOURNAL for ten times the sum they cost, if they could not replace them. They are exceedingly valuable alike to beginners and more advanced apiarians.

A CHOICE OF SIX VOLUMES FOR \$5.—Having a few back volumes complete, and some lacking only one or two numbers each, we will give the purchaser the choice of six of such volumes for \$5.00, until they are disposed of. As only a few can be supplied, those who wish to avail themselves of this offer, should send for them *at once*.

🐝 We want several copies of No. 1, Vol. 2, of the AMERICAN BEE JOURNAL, and will pay 50 cents each for them.

The postage on this paper is only twelve cents a year, if paid quarterly or yearly in advance at the post-office where received. We prepay postage to Canada, and require twelve cents extra.

When a subscriber sends money in payment for the AMERICAN BEE JOURNAL, he should state to what time he thinks it pays, so that we can compare it with our books, and thus prevent mistakes.

Voices from among the Hives.

O. L. BALLARD, of Malone, N. Y., writes :—"Most of the bee-keepers in this vicinity have lost a large proportion of their colonies since setting them out this spring; but by feeding mine a little they have increased in numbers, although they have not swarmed out as yet."

WM. PERRY, SR., Lynnville, Tenn., writes :—"Our honey harvest has been very tight the present season. There has not been much increase in stocks. The very wet spring, followed by a drought of some five weeks, has proved quite unfavorable for honey gathering."

E. GALLUP, Orchard, Iowa, writes :—"The bees are swarming and doing finely. The spring was cold and backward, which makes them late in swarming, but the flowers all produce honey this season. They are now to work on Alsike and white clover. The bass-wood or linn is going to blossom very profusely; so look out for honey."

J. H. CRISTIE, Dyersburg, Tenn., writes :—"My bees are doing well. The winter was mild, and the spring opened early, but cold and wet. Bees could gather nothing to make honey of, and many starved to death. All were put back at least a month. The poplar is our best honey food, and it is in bloom now. We have besides this, holly, maple, elm, and black gum. My bees are all of the black kind. I intend to Italianize them soon."

JOHN BARFOOT, Wellsville, Mo., writes :—"So far this has been a good bee season. Honey dew commenced here May 22nd and it has continued up to this time, with the exception of two days while it rained. We have also had our usual supply of bee pasture from flowers. We are in the midst of swarming. The Messrs. Baldwins, since their advent here, have infused new life into bee-keeping. Hives have increased 5 pounds in a single day here lately."

L. BURDICK, Galesburg, Mich., writes :—"Our bees wintered very well last winter. But a great many were lost during the month of April, who flew out and died apparently without disease, the queens living till about the last. They laid some eggs but did not hatch, for the want of bees to take care of them. The bees might have died with old age. Any information on this subject would be thankfully received. The season here has been good for bees, up to this date."

SAMUEL LUETHI, Gnadenhutten, Ohio, writes :—"Bees wintered well in this locality. One of our Italian colonies treated to horse manure as recommended by 'Novice,'

did not seem to derive much benefit from the process. The manure was put around the hive up to the honey board on three sides, and the front was protected by straw and a board placed in front of it. The prospect for surplus honey is poor, owing to the long continued dry weather."

FRANK SEARLES, Hadley, Ill., writes :—"I wintered 123 swarms and lost but one. I have only lost 8 swarms in the last three years. The weather for the past ten days has been very unfavorable—clouds, rain, and wind. The fields are white with clover, and my hives are full of bees. All they want now is fine weather. Swarms that I did not think good enough to sell 15 days ago are now in first-class condition. They have done finely on the locust trees, for the past few days."

C. H. ENGLISH, Sullivan, Mo., writes :—"We have a good bee range here. The natural timber is very good. Sugar trees, soft maple, walnut, gum, and linn are among the best. They also make honey from a vine called "poison vine," wild grapes, etc. I intend hedging my farm with a kind of hawthorn, resembling sugar haws. It blooms in June. Bees are very fond of it; and it makes a good hedge, and the berries are good for hogs. Red raspberry is the best honey plant. Its leaves are dripping with honey dew. My hives are full of honey, some in boxes. I have had several swarms. I use black bees. Some day I will give you my experience."

M. QUINBY, St. Johnsville, N. Y., writes :—"When I first read on page 106, the heading 'A new smoker' I thought 'a contrivance for smoking bees' had reference to the way smoke was applied. Instead of a new way of applying smoke, it seems that only the material that he recommends to make it of is new. He concludes by saying: 'You can blow the smoke where you want it, it leaves no bad effect on the bees.' Are we to infer from this that some kinds of smoke do leave a 'bad effect'? If so, I would like to enquire what kind does it, and in what way it does it. All bee-keepers ought to be interested, as our success in bee management depends on the judicious use of smoke. If any kind is detrimental, it is important that I know it, as I am just now recommending an indiscriminate use of what is most convenient, and am unable to detect any difference. When 'corn silk rolled in paper' is most convenient, I would advise using it. How to apply smoke conveniently, and effectually, without blowing the breath away, has been a long study with me. Any one that has a convenient method would confer a favor on the bee-keeping community, by making it public."

W. M. KELLOGG, Oneida, Ill., writes :—"Bees are doing finely at present, filling their

hives with bees and honey; I have had to use the extractor to keep them from crowding the queens out of doors. Stocks in small hives are preparing to swarm, raising queens, drones, etc., while those with movable division boards, where we can give them plenty of empty comb, seem to be content with raising lots of brood and lugging in the honey for us to sling out. Have made some new stocks and soon will have some more. We are having plenty of rain, so that bees have all they want to do to tend to their knitting; but yesterday was so damp they could get no honey from the flowers, so they pitched into everything that had sweet to it, by thousands, and were so cross one couldn't touch them with a ten foot pole.

On page 142 Wm. Morris asks, 'are large hives less liable to be affected with dysentery than small ones?' With our bees that died off in the spring of '73, they did not get the dysentery till they were reduced to about a pint of bees, none of the stocks in large hives having it, till weak in bees, or the small hives either, for that matter. For my part I do not think it makes much difference in the size of the hive, if they have plenty of bees; and as to the cause of the disease here, we think it is to be laid to the long continued cold rains and winds, keeping the bees from breeding, and what few were left had to gorge themselves so with honey to keep up sufficient warmth, and then being confined to the hives, gave them the dysentery.

D. D. Palmer (page 143) speaks of the 'ingenious bent wire' that Mr. Dadant uses to secure frames at the bottom of the hive in shipping, but leaves us with our curiosity unsatisfied. Friend Palmer, can't you give us a description of it so we all can have the benefit of it? or is it a patented article? If it is, of course we'll have to pay for the use of it."

M. NEVINS, Cheviot, Ohio, writes:—"My 34 stocks of Italians are doing finely. They have worked more freely on red clover during the past two weeks than I ever knew them to do before. One swarm, from which I took 4 frames of brood in March, April, and May, has now made 50 lbs. of comb honey in the small frames, and 50 lbs of extracted. This hive has been weighed every day since the 4th inst., and on 4 of these days has made 4 lbs. per day of comb honey, and almost entirely from red clover.

I see some inquiry is made through the different journals for a convenient plan for weighing. I have a fixture which is convenient. Take three strips of sawed stuff, 2 in. wide by 1½ in. thick, (or round poles will do) and 8 or 9 ft. long. Shave the top of each so they will fit together when the lower ends are spread some 5 ft. apart. Fasten the top

ends together with an iron bolt. Now you have a tripod. 4½ ft. from the foot fasten a cross piece from leg No. 1 to leg No. 2 of sufficient strength to bear the weight in the centre, of anything you desire to weigh. Across the centre of this cross piece attach a lever, letting the inside end project just far enough to reach past leg No. 3, fasten a cleat to rest the end of the lever on. Attach a ring to the lever about midway between the cross bar that supports the lever and leg No. 3. Take a piece of rope, tie the two ends together and you have it long enough to go under the hive double and come up on each side near the top of the hive. Tie a spreader to the rope on each side of the hive near the bottom to keep the rope sufficiently spread on the bottom of the hive. I use a leather strap over the top of the hive, and through the rope on each side of the hive to hook the steelyard into so that it can readily be adjusted by a buckle to the right length to just swing the hive clear, when the lever comes to a horizontal position and rests upon the cleat on leg No. 3. I frequently leave the hive suspended there from day to day. The outer end of the lever projects over the cross bar far enough to give sufficient leverage to raise the hive easily by bearing down on it. The ring on the lever is for the upper hook of the steelyard.

All bee-keepers will readily see the great advantage of weighing a sample hive every day so as to know just what calculation to make about supplying additional storage room etc. etc., without having to open and go through the hives, which is always an interruption to them when storing honey rapidly.

The above apparatus is a great convenience on a farm, and for many purposes aside from weighing bee hives. I once had a lot of 40 or 50 beeves on the farm, which I desired to slaughter. I made a tripod 12 ft. high with a light tackle-block attached at the top, and a pole across two of the standards near the foot with a crank on one end for a windlass. Shoot down a steer in the lot or any place where you could have a fair swing in the air, set the tripod over it and with one hand I could lift it into any desired position for dressing, or, raise it clear from the ground. When dressed it could be run up out of the way of dogs, to hang over night, or a wagon backed under to take it away. This apparatus was made of tamarac poles and was so light that a man could easily carry the whole rig half a mile on his shoulder.

My hives all stand on little posts driven in the ground, one at each corner of the hive. Old broom handles, sawed off 8 or 10 in. long are sufficient if the ground is hard. Let the hive come within 2 or 3 in. of the ground. This plan affords no harbor for ants, spiders, rotten-wood, lice, etc., and is very nice. I bank up in the front of my hives with coal ashes, even with the alighting board, to keep the grass and weeds down and give the bees a smooth and easy passage.

American Bee Journal

THOMAS G. NEWMAN, MANAGER.

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Books for Bee-Keepers may be obtained at this office.

Not one letter in ten thousand is lost by mail if rightly directed.

Single copies of the AMERICAN BEE JOURNAL are worth 20 cents each.

Upon the wrapper of every copy of the JOURNAL will be found the date at which subscriptions expire.

Any numbers that fail to reach subscribers by fault of mail, we are at all times ready to send, on application, free of charge.

The German Bee-Sting Cure can be obtained at this office. Sent by Express for \$1.00. It cannot be sent by mail. See notice.

Our subscribers in Europe, can now procure Postal Money Orders on Chicago. This plan of sending money is safe and economical.

Subscribers wishing to change their post-office address, should mention their old address, as well as the one to which they wish it changed.

JOURNALS are forwarded until an explicit order is received by the publishers for the discontinuance, and until payment of all arrearages is made as required by law.

Persons writing to this office should either write their Name, Post-office, County and State plainly, or else cut off the label from the wrapper of their paper and enclose it.

We have received a Postal Order from Shanon, Wis., in an envelope containing nothing else. We do not know from whom it came, nor for what it was intended. Will some one inform us?

The Rev. W. F. Clarke has resigned the Rectorship of the Canada School of Agriculture. Not finding it compatible with his other duties, he refused the honor.

Honey Markets.

CHICAGO.—Choice white comb honey, 28 @30c; fair to good, 24@28c. Extracted, choice white, 14@16c; fair to good, 10@12c; strained, 8@10c.

CINCINNATI.—Quotations from Chas. F. Muth, 976 Central Ave.

Honey has been coming in moderately for the past few weeks. Honey from fruit blossoms, this spring, is abundant. The harvest of white clover honey was duly inaugurated two weeks since, in this section. The quality is excellent.

Comb honey, 15@35c, according to the condition of the honey and the size of the box or frame. Extracted choice white clover honey, 16c. 7 lb.

ST. LOUIS.—Quotations from W. G. Smith 419 North Main st.

Choice white comb, 25@29c; fair to good, 16@22c. Extracted choice white clover, 16@18c. Choice basswood honey, 14@16c; fair to good, extracted, 8@12c; strained, 6@10c.

NEW YORK.—Quotations from E. A. Walker, 135 Oakland st., Greenport, L. I.

White honey in small glass boxes, 25c; dark 15@20c. Strained honey, 8@12c. Cuban honey, \$1.00 7 gal. St. Domingo, and Mexican, 90@95 7 gal.

SAN FRANCISCO. — Quotations from Sterns and Smith, 423 Front st.

We received the first new honey about June 1st; the season is four weeks late in honey. The quality, so far this season, is superior. From information derived from all sources, the yield this season will be very large, and we shall have to look to the East for a market. Comb in wood, new, and well filled, 20 @ 30 cents 7 lb; in tins, 2 lb tins, comb, \$3.50 @ 3.75 per doz. But little new strained has yet come in, and dealers are only buying small lots.

Special Notice.

During the past ten months of "Panic," the receipts of the AMERICAN BEE JOURNAL have been very light. We have cheerfully "carried" thousands of our subscribers, and now trust that they, will respond as soon as possible, as we have obligations that must be met at once. Many subscriptions ran out with the JUNE number, and now we hope to hear from them, as well as from those that expired before that time.

We shall continue to send the AMERICAN BEE JOURNAL to all our subscribers until we get an explicit order for a discontinuance, and we hope those who not wish to continue their subscriptions will notify us by letter or Postal card, either when they expire or before that time.

We have purchased of Geo. S. Wagner Esq. and the Rev. W. F. Clarke all the back subscription and advertising accounts.

THE AMERICAN BEE JOURNAL.

and hence everything due to the AMERICAN BEE JOURNAL of whatever kind or nature *must* now be paid to the undersigned.

We hope those who are in arrears will send the amounts due us, during this month, as we are in pressing need of it, to cancel obligations already given for these very accounts. Who will respond?

THOMAS G. NEWMAN, Publisher.

"The easiest and speediest way of cleaning glass jars is perhaps, to use shot and a solution of sal soda, and a good rinsing in clear water afterwards."

New Advertisements.

Among our new announcements for July may be noted the following:

J. S. Colyer offers Italian Queens for sale and quotes prices.

J. L. Peabody & Co. mention new terms for their Honey Extractor.

M. Quinby announces that he can send his excellent smoker by mail.

A. Lovett, in California, offers 200 stocks of fine Italian bees for sale.

T. G. McGaw offers bees, queens, and eggs from light Brahma fowls for sale.

W. M. Steely, of California, Missouri, offers bees at Grange-prices! as well as a lot of untried queens at \$1.00 each.

C. Maxwell Buel, a New York dealer in patents, offers his services to bee men and others desiring to patent articles of every description.

"Parks' Floral Gazette" is an excellent periodical for florists. We will supply it with the AMERICAN BEE JOURNAL for \$2.25 per annum in advance.

The Burlington, Cedar Rapids & Minnesota Railroad, the great north and south line of Iowa, gives its connections and general arrangement in this paper.

The honey harvest, this year, is only a very medium one in our part of the country, where we have to depend on white clover only. The drought in the early part of summer kept white clover from developing, and—"blasted" our hopes to some extent. I have pumped from my 24 stands nearly 1500 lbs. of excellent honey while I was preparing for at least twice the amount. Every one of my stands was strong and I had a full set of honey combs for nearly every one. If my bees would have had to build their combs I suppose that 250 lbs. would cover my entire harvest. My bees filled their combs better in two or three days last year than in a whole week this season, and comb building was of very slow progress consequently.

Cincinnati, O.

C. F. MUTH.

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C. J. IVES, Gen'l Pass. & Ticket Ag't.
Jul74m6 Cedar Rapids, Iowa.

Pure Italian Queens

From imported and home bred mothers.

Single queen.....\$2.50

Purity and safe arrival guaranteed.

Address, J. S. COLYER,
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BEE MANAGEMENT.

Price of Quinby's new smoker, \$1.50. For 25 cts. in addition I will send it free by mail. It will be in two parts, and screws will be in place showing where it is to be put together. Send for Circular and price.
Jul74tf M. QUINBY,
St. Johnsville, Montgomery Co. N. Y.

100 Agricultural, Mechanical, Chemical, valuable labor-saving **PATENTS** of every description, for sale, with any of which

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ITALIAN QUEENS.

We are prepared to furnish Queens this season from the best Stock in this country. We send out none but tested Queens, warranted pure and prolific. We have a few tested last fall that we will send as early as possible, (last of April or 1st. of May) at \$8 each. These are of special value to those who intend to rear Queens early. After June 1st. one queen, \$5; three, \$12; eight, \$30; thirty, \$100.

Address, **ITALIAN BEE CO.,**
may74tf Des Moines, Iowa.

CALIFORNIA.

200 STOCKS OF ITALIAN BEES FOR SALE.

THESE Bees are in Harbison's Patent Movable Frame Hives; bred from his stock, and young Queens introduced into each this year. They will be delivered free of charge at the Express office in Sacramento on the 1st of October, and can be moved at that time to any location purchasers may select. Bee-keepers who intend to locate in California will find this a good opportunity to start with healthy stocks in good condition. Terms cash, at the following prices per stock.

Any number under 30.....\$10.00
over 30..... 9.00

For further information, Address,
Julim A. LOVETT, Sacramento, California.

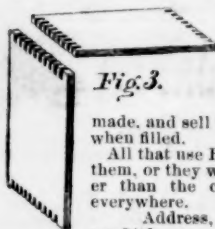


Fig. 3.

made, and sell for three times the first cost when filled.

All that use Boxes, should not fail to see them, or they will regret it. Hives cheaper than the cheapest. Agents wanted everywhere.

Address, **BARKER & DICER,**
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\$500 REWARD!

for a Honey Box that will compete with our Improved Sectional Boxes, in any particular. They are quickly and cheaply

EARLY ITALIAN QUEEN BEES.

WE can furnish any number of Pure Italian Queen Bees or Nucleus or full stocks in April and May. Send for Price List. Address,

UNION APIARIAN CO.,
Columbia, Tenn.

After May 1st, address Indianapolis, Ind., or Cincinnati, Ohio. apr74mf

Good News for Bee-Keepers!

Italian Queen Bees at Grange prices.

DO NOT fail to send to the GREAT WESTERN BEE GRANGE and obtain one or more of our pure queens. We will send them by mail—safe arrival and purity guaranteed—one queen for \$2.00, two queens for \$3.75, three queens for \$5.00, when more than three are ordered at one time, we will send them for \$1.50 each. We will also send unwarranted queens for \$1.00 each. Send on your orders and we will do our very best to give entire satisfaction.

Address, **W. M. STEELY, Box 131,**
may4mf California, Montean Co., Missouri.

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For Sale in Langstroth hives. Warranted pure Italians; to be delivered early in spring. Prices low. Address, C. F., care of National Bee Journal, Des Moines, Iowa. may74mf

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Warranted Queens.....each,	2.00
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Queens sent as soon as fertile without any guarantee, \$1.00 each. W. D. WRIGHT,
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CHEAPEST AND BEST!

A \$15.00 machine and one knife for \$12.00
To Agents, - - - - - 10.00

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Italian Queen Bees!

Full Stock, \$15.00. Tested Queens, \$3.00 each. After July, warranted Queens \$2.50; 3 for \$7.00. 6 in Aug. and Sept., \$12.00. Bred from Imported Stock, sent by mail and satisfaction guaranteed. Eggs from Light Brahma Fowls \$1.50 per dozen.

Address, **T. G. MCGAW,**
jul74mf Monmouth, Warren Co., Ill.